CLAIMS

What is claimed is:

1   1. A method for adaptively compressing test data to be provided to a device under test
2   (DUT), the method comprising the steps of:
3   examining a test data file that includes a first plurality of data units corresponding to a
4   first plurality of DUT pins and a second plurality of data units corresponding to a
5   second plurality of DUT pins;
6   compressing the first plurality of data units using a first compression technique; and
7   compressing the second plurality of data units using a second compression technique.

1   2. The method of claim 1, further comprising, prior to the steps of compressing:
2   determining a timing complexity for the first plurality of data units; and
3   determining a timing complexity for the second plurality of data units.

1   3. The method of claim 1, wherein the first plurality of data units corresponds to clock signals
2   and the second plurality of data units corresponds to non-clock signals.

1   4. The method of claim 1, wherein compressing the first plurality of data units by a
2   predetermined compression rate requires more resources than compressing the second
3   plurality of data units by the predetermined compression rate.

1   5. The method of claim 1, wherein the first plurality of data units have a different timing
2   complexity than the second plurality of data units.

1   6. The method of claim 1, wherein the first plurality of data units have a different vector data
2   volume than the second plurality of data units.

1   7. The method of claim 1, wherein the first plurality of data units have more repetitive data
2   patterns than the second plurality of data units.

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1   8. The method of claim 1, wherein the first plurality of DUT pins are clock-pins and the

2   second plurality of DUT pins are non-clock-pins.

1   9. The method of claim 1, further comprising the step of:

2   formatting the first plurality of data units independently from the second plurality of data

3   units.

1   10. The method of claim 1, wherein the test data file is one of a STIL (standard test interface

2   language) file and a WGL (waveform generation language) file.

1   11. The method of claim 1, wherein at least one processor operating in a first timing domain

2   enables the first plurality of data units to be provided to the first plurality of DUT pins, and at

3   least one processor operating in a second timing domain enables second plurality of data units

4   to be provided to the second plurality of DUT pins, wherein the second timing domain is

5   different from the first timing domain.

1   12. A method for adaptively compressing test data to be provided to a device under test

2   (DUT), the method comprising the steps of:

3   examining a test data file that includes test data configured to enable testing the DUT,

4   the test data file including a first plurality of data units and a second plurality of

5   data units, the first plurality of data units corresponding to a first plurality of

6   DUT pins, and the second plurality of data units corresponding to a second

7   plurality of DUT pins;

8   determining that the first plurality of data units have a first compressibility characteristic;

9   and

10   determining that the second plurality of data units have a second compressibility

11   characteristic.

1   13. The method of claim 12, further comprising the step of:

2   compressing the first plurality of data units independently from the second plurality of

3   data units.

1   14. The method of claim 12, wherein the first plurality of DUT pins are clock-pins and the
2   second plurality of DUT pins are non-clock-pins.

1   15. The method of claim 12, wherein the test data file is one of a STIL (standard test
2   interface language) file and a WGL (waveform generation language) file.

1   16. The method of claim 12, wherein the first plurality of data units have a different timing
2   complexity, a different vector data volume, and more repetitive data patterns than the second
3   plurality of data units.

1   17. A system for adaptively compressing test data to be provided to a device under test (DUT),
2   the system comprising:
3   memory configured to store a test data file that includes a first plurality of data units
4   corresponding to a first plurality of DUT pins and a second plurality of data units
5   corresponding to a second plurality of DUT pins; and
6   a processor operative to:
7   compress the first plurality of data units using a first compression technique; and
8   compress the second plurality of data units using a second compression
9   technique.

1   18. The system of claim 17, wherein the processor is operative to:
2   determine a timing complexity for the first plurality of data units; and
3   determine a timing complexity for the second plurality of data units.

1   19. The system of claim 17, wherein the first plurality of data units correspond to clock signals
2   and the second plurality of data units correspond to non-clock signals.

1   20. The system of claim 17, wherein compressing the first plurality of data units by a
2   predetermined compression rate requires more resources than compressing the second
3   plurality of data units by the predetermined compression rate.

1   21. The system of claim 17, wherein the first plurality of data units have a different timing

2   complexity than the second plurality of data units.

1   22. The system of claim 17, wherein the first plurality of data units have a different vector

2   data volume than the second plurality of data units.

1   23. The system of claim 17, wherein the first plurality of data units have more repetitive data

2   patterns than the second plurality of data units.

1   24. The system of claim 17, wherein the first plurality of DUT pins are clock-pins and the

2   second plurality of DUT pins are non-clock-pins.

1   25. The system of claim 17, further comprising the step of:

2   formatting the first plurality of data units independently from the second plurality of data

3   units.

1   26. The system of claim 17, wherein the test data file is one of a STIL (standard test interface

2   language) file and a WGL (waveform generation language) file.

1   27. The system of claim 17, wherein at least one processor operating in a first timing domain

2   enables the first plurality of data units to be provided to the first plurality of DUT pins, and at

3   least one processor operating in a second timing domain enables the second plurality of data

4   units to be provided to the second plurality of DUT pins, wherein the second timing domain

5   is different from the first timing domain.

1 28. A system for adaptively compressing test data to be provided to a device under test (DUT),

2 the system comprising:

3   memory configured to store a test data file that includes test data configured to enable

4   testing the DUT, the test data file including a first plurality of data units and a

5   second plurality of data units, the first plurality of data units corresponding to a

6   first plurality of DUT pins, and the second plurality of data units corresponding

7   to a second plurality of DUT pins; and

8   a processor that is operative to:

9   determine that the first plurality of data units have a first compressibility

10   characteristic;

11   determine that the second plurality of data units have a second compressibility

12   characteristic.

1 29. The system of claim 28, wherein the processor is operative to:

2   compress the first plurality of data units independently from the second plurality of

3   data units.

1 30. The system of claim 28, wherein the first plurality of DUT pins are clock-pins and the

2 second plurality of DUT pins are non-clock-pins.

1 31. The system of claim 28, wherein the test data file is one of a STIL (standard test interface

2   language) file and a WGL (waveform generation language) file.

1 32. The system of claim 28, wherein the first plurality of data units have a different timing

2 complexity, a different vector data volume, and more repetitive data patterns than the second

3 plurality of data unit